

Ministry of the Environment
Ministère de l'Environnement

AMENDED CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 5273-7TYN6T
Issue Date: July 30, 2009

The Regional Municipality of Niagara
3501 Schmon Pky
Post Office Box, No. 1042
Thorold, Ontario
L2V 4T7

Site Location: Welland Wastewater Treatment Plant
505 River Rd R.R. #1
Welland City, Regional Municipality of Niagara
L3B 5N4

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

A wastewater treatment plant serving the City of Welland and the Town of Pellham, located in the City of Welland (UTM Coordinates 10 m east of outfall: NAD 83; within Zone 17, 643,562.00 m Easting, 4,763,197.00 m Northing) having a rated capacity of 54,550 m³/d *Average Daily Flow* and 118,000 m³/d *Peak Flow Rate*, consisting of the following:

PROPOSED WORKS
Dechlorination System

Installation of a dechlorination system with total peak flow rate capacity of 118,000 m³/d, and consisting of:

- one (1) cell contact tank #1 with two (2) passes, each pass 3.5 m wide by 10.2 m long by 1.0 m deep (static water depth) provides contact time for wastewater from chlorine contact tank #1 (CCT1);
- one (1) cell contact tank #2 with two (2) passes, each pass 2.0 m wide by 7 m long by 2.29 m deep (static water depth) provides contact time for wastewater from chlorine contact tank #2 (CCT2); and

- three (3) metering pumps (duty/standby/duty), each with a capacity of 120 L/h and two (2) 2.438 m diameter and 2.362 m height storage tanks, each tank providing a storage capacity of approximately 8.516 m³ with provisions to inject dechlorination chemical to the inlets of the dechlorination contact tanks #1 and #2.

all in accordance with:

1. Application for Approval of Municipal and Private Sewage Works dated June 16, 2009 and supporting documentation submitted under covering letter dated June 16, 2009 by Magendiran Vaiyapuri, P.Eng., of Associated Engineering, Consulting Engineers; and
2. A letter dated July 17, 2009 from Magendiran Vaiyapuri, P.Eng. of Associated Engineering, to Youssouf Kalogo, P.Eng. of MOE.

EXISTING WORKS

Main Sewage Pumping Station

A main sewage pumping station with a divided wet well arrangement and isolating gates to facilitate wet well cleaning, and consisting of:

- three (3) centrifugal type raw sewage pumps each having a pumping capacity of 55,690 m³/d and each equipped with variable speed control, with 134,000 m³/d firm pumping capacity available at high wet well levels.

Screening and Grit Removal Facilities Building

- Screening facilities comprising of two (2) 1,500 mm wide mechanically raked bar screens that operate in parallel, each with 25 mm square openings and automatic controls and capable of operating at a peak flow rate of 136,200 m³/d.
- Grit removal facilities consisting of the following:
 - two (2) new aerated grit chambers, each chamber 18 m long by 5.5 m wide by 4 m deep and capable of operating individually at a peak flow rate of 136,200 m³/d; and,
 - an air supply system capable of delivering up to 8 L/s of air per linear meter chamber length.
- One (1) flow splitter, located downstream of the grit removal facilities and upstream of the primary settling facilities, to split flow into two streams, with a minimum flow of 9,900 m³/d always directed through the physical/chemical plant, and up to 65,000 m³/d directed through the conventional treatment plant, with flow in excess of 65,000 m³/d directed through the physical/chemical treatment plant.

Physical Chemical Treatment Plant

A physical/chemical treatment plant designed for treating flows in excess of 65,000 m³/d and up to 118,000 m³/d, consisting of:

- two (2) flocculation tanks with two (2) mixers, used for the dispersion of coagulants (ferric chloride or alum) to the raw sewage; and
- two (2) primary settling tanks, each with two (2) cells and each cell measuring 6.1 m wide by 45.7 m long by 2.8 m deep (average water depth), for a total surface area of 1,115 m² and total volume of 4,237 m³, and each cell equipped with longitudinal chain and flight type sludge collection mechanisms including scum skimmers and provision for chemical addition.

Conventional Treatment Plant

A conventional activated sludge treatment plant with tertiary filtration, designed to treat flow rate of up to 65,000 m³/d, consisting of the following:

- three (3) 6.0 m wide by 58.0 m long by 3.8 m deep newer primary settling tanks, each with a maximum liquid capacity of 1,323 m³, and equipped with longitudinal chain and flight type sludge collection mechanisms including scum skimmers;
- four (4) two-celled deep aeration tanks, each cell measuring 15.2 m wide by 15.2 m long by 4.6 m deep with a maximum liquid capacity of 1,062 m³, to be used for biological treatment, with each cell equipped with one (1) 44.8 kW dual speed, surface type mechanical aerator; and
- Final Settling Tanks as follows:
 - six (6) 6.1 m wide by 42.7 m long by 3.9 m (average water depth), rectangular final settling tanks, with a total surface area of 1,562 m²; and,
 - two (2) 36.6 m square by 3.8 m deep older tanks, with a total surface area of 2,677 m².

Effluent Filtration Facilities

An effluent filtration facility, which treats effluent from the conventional plant up to a peak flow rate of 68,130 m³/d, consisting of the following:

- one (1) effluent filter pumping station, equipped with:
 - one (1) 5.4 m by 6.0 m by 4.9 m high wet well having a holding capacity of 159 m³; and,

- four (4) variable frequency, variable speed drive centrifugal pumps (three duty, one standby), each rated at 262 L/s, used to pump the combined effluent from the conventional treatment plant and the physical/chemical treatment plant to the effluent filter inlet;
- three (3) three-celled dual media, deep bed filters, each filter approximately 11.6 m in diameter with a surface area of 105.7 m² and an overall height of 3.7 m; and,
- one (1) 16.5 m long by 11.4 m wide by 5.0 m deep, 915 m³ capacity backwash water holding tank.

Disinfection

A sodium hypochlorite disinfection system with a total peak flow rate capacity of 118,000 m³/d, consisting of the following:

- one (1) two-celled old chlorine contact tank, each cell 3.5 m wide by 34.1 m long by 4.0 m deep (static water depth), provides contact time for effluent from the filters and the physical/chemical treatment plant;
- one (1) two-celled newer chlorine contact tank, each cell 3 m wide by 34 m long by 3 m (static water depth), provides contact time for effluent from the secondary clarifiers (filter bypass) and physical/chemical plant; and,
- a sodium hypochlorite feed system consisting of three (3) metering pumps (two duty, one standby), each with a capacity of 90.8 L/h and one (1) 15,900 L chemical storage tank, and provision to inject sodium hypochlorite solution at the inlets to the four aeration tanks, chlorine contact tank no. 1 and chlorine contact tank no. 2.

Phosphorus Removal

A coagulant feed system consisting of three (3) metering pumps (two duty, one standby), each with a capacity of 90.8 L/h and two (2) 36,000 L chemical storage tanks, with provision to inject coagulant to the inlet of the secondary clarifiers.

Anaerobic Digestion

Anaerobic digestion facilities consisting of the following:

- One (1) 19.8 m diameter by 6.7 m SWD anaerobic primary digester with a 2.3 m deep truncated conical bottom and a sludge holding capacity of 2,318 m³ equipped with an insulated fixed steel cover, gas recirculation/mixing system, and one (1) external hot water type heat exchanger (with related recirculation pumps) capable of maintaining an operating temperature of 35 degrees centigrade;

- One (1) 19.8 m diameter by 6.1 m SWD primary digester with a 2.8 m deep conical bottom and a sludge holding capacity of 2,600 m³, equipped with a floating gas holding cover, one (1) sludge re-circulating pump rated at 15 L/s at 7 m TDH, and one (1) sludge heat exchanger suitable for heating digestion tank sludge, rated at 370 kW with a sludge flow rate of 22.1 L/s, capable of maintaining an operating temperature of 35 degrees centigrade;
- One (1) 21.3 m diameter by 6.4 meter SWD anaerobic secondary digester with a 2.3 m deep conical bottom and a sludge holding capacity of 2,130 m³, equipped with a floating gas holding cover; and
- A waste gas burner to handle approximately 0.081 m³/s (292 m³/h) digester biogas production.

Treated Effluent Outfall

One (1) 1,372 mm diameter (internal) pipe, extending approximately 25 m from the wastewater treatment plant to the headwall of the Welland River, where treated effluent is discharged about 0.5 m down the side of the bank into the Welland River.

Flowmeters and Monitoring Instrumentation

- One (1) Parshall Flume flow meter, located downstream of the flow splitter on the line feeding the conventional treatment plant for flow up to 90,000 m³/d.
- One (1) Parshall Flume flow meter, located downstream of the flow splitter and on the line feeding the physical/chemical plant for flow in excess of 90,000 m³/d.

Standby Power

- One (1) 1,000 kW standby diesel generator set to provide power to the Welland Wastewater Treatment Plant during emergencies.
- One (1) 9,213 L diesel fuel tank with containment.

all in accordance with:

1. Application for Approval of Municipal and Private Sewage Works dated August 21, 2002 along with reports titled "Review of Welland WWTP Wastewater Process Capacity" and "Consolidated Certificate of Approval for the Welland Wastewater Treatment Plant" both prepared by KMK Consultants Limited, Brampton, Ontario and previous supporting documentation submitted for the Certificates of Approval that are revoked and replaced by this *Certificate* ;

2. Letter dated May 20, 2005 from Marianne Kish, Clerk-Wastewater Area 2, The Regional Municipality of Niagara, Water & Wastewater Division;
3. Application for Approval of Municipal and Private Sewage Works dated October 16, 2006.
4. Application for Approval of Municipal and Private Sewage Works dated December 16, 2008 and supporting documentation submitted under covering letter dated December 17, 2008 by Elizabeth Evans, B.Sc., Niagara Region.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"*Act*" means the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended;

"*Average Daily Flow*" means the cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year;

"*By-pass*" means any discharge from the *Works* that does not undergo full treatment before it is discharged to the environment;

"*BOD₅*" (also known as TBOD₅) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands;

"*CBOD₅*" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;

"*Certificate*" means this entire certificate of approval document, issued in accordance with Section 53 of the *Act*, and includes any schedules;

"*Daily Concentration*" means the concentration of a contaminant in the effluent discharged over any single day, as measured by a composite or grab sample, whichever is required;

"*Director*" means any *Ministry* employee appointed by the Minister pursuant to section 5 of the *Act*;

"*District Manager*" means the District Manager of the Niagara District Office of the Ministry;

"*E. Coli*" refers to the thermally tolerant forms of *Escherichia* that can survive at 44.5 degrees Celsius;

"*Existing Works*" means those portions of the sewage works previously constructed and approved under a certificate of approval;

"*Geometric Mean Density*" is the nth root of the product of multiplication of the results of n number of samples over the period specified;

"*Ministry* " means the Ontario Ministry of the Environment;

"*Monthly Average Concentration* " means the arithmetic mean of all *Daily Concentrations* of a contaminant in the effluent sampled or measured, or both, during a calendar month;

"*Monthly Average Loading* " means the value obtained by multiplying the *Monthly Average Concentration* of a contaminant by the *Average Daily Flow* over the same calendar month;

"*Owner* " means the Regional Municipality of Niagara and includes its successors and assignees;

"*Peak Flow Rate* " means the maximum rate of sewage flow for which the plant or process unit was designed;

"*Proposed Works* " means the sewage works described in the *Owner* 's application, this *Certificate* and in the supporting documentation referred to herein, to the extent approved by this *Certificate* ;

"*Rated Capacity* " means the *Average Daily Flow* for which the *Works* are approved to handle;

"*Regional Director* " means the Regional Director of the West Central Region of the Ministry;

"*Substantial Completion* " has the same meaning as "*substantial performance* " in the Construction Lien Act; and

"*Works* " means the sewage works described in the *Owner* 's application, this *Certificate* and in the supporting documentation referred to herein, to the extent approved by this *Certificate* and includes both *Proposed Works* and *Existing Works* .

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL PROVISIONS

- (1) The *Owner* shall ensure that any person authorized to carry out work on or operate any aspect of the *Works* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- (2) Except as otherwise provided by these Conditions, the *Owner* shall design, build, install, operate and maintain the *Works* in accordance with the description given in this *Certificate* , the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this *Certificate* .

- (3) Where there is a conflict between a provision of any submitted document referred to in this *Certificate* and the Conditions of this *Certificate* , the Conditions in this *Certificate* shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.
- (4) Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
- (5) The requirements of this *Certificate* are severable. If any requirement of this *Certificate* , or the application of any requirement of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this certificate shall not be affected thereby.

2. EXPIRY OF APPROVAL

The approval issued by this *Certificate* will cease to apply to those parts of the *Proposed Works* which have not been constructed within five (5) years of the date of this *Certificate* .

3. CHANGE OF OWNER

- (1) The *Owner* shall notify the *District Manager* and the *Director* , in writing, of any of the following changes within 30 days of the change occurring:
 - (a) change of *Owner* ;
 - (b) change of address of the *Owner* ;
 - (c) change of partners where the *Owner* is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the *District Manager* ;
 - (d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Informations Act, R.S.O. 1990, c. C39 shall be included in the notification to the *District Manager* ;
- (2) In the event of any change in ownership of the *Works* , other than a change to a successor municipality, the *Owner* shall notify in writing the succeeding owner of the existence of this *Certificate* , and a copy of such notice shall be forwarded to the *District Manager* and the *Director* .

4. CONSTRUCTED WORKS

Within one year of the date of issuance of this *Certificate* , a set of as-built drawings showing the works "as constructed" shall be prepared, if not already prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the *Works* for the operational life of the *Works* .

5. BY-PASSES

- (1) Any *By-pass* of sewage from any portion of the *Works* is prohibited, except where:
 - (a) it is necessary to avoid loss of life, personal injury, danger to public health or severe property damage;
 - (b) the *District Manager* agrees that it is necessary for the purpose of carrying out essential maintenance and the *District Manager* has given prior written acknowledgment of the *by-pass* ; or
 - (c) the *Regional Director* has given prior written acknowledgment of the *By-pass* .
- (2) The *Owner* shall collect at least one (1) grab sample of the *By-pass* and have it analyzed for the parameters outlined in Condition 7 using the protocols in Condition 9.
- (3) The *Owner* shall maintain a logbook of all *By-pass* events which shall include, at a minimum, the time, location, duration, quantity of *By-pass* , the authority for *By-pass* pursuant to subsection (1), and the reasons for the occurrence.
- (4) The *Owner* shall, in the event of a *By-pass* event pursuant to subsection (1), disinfect the by-passed effluent during the disinfection period of April 01 to October 31 prior to reaching the receiver such that the receiver is not negatively impacted.

6. EFFLUENT OBJECTIVES

- (1) The *Owner* shall use best efforts to design, construct and operate the *Works* with the objective that the concentrations of the materials named in Table 1 as effluent parameters are not exceeded in the effluent from the *Works* .

Table 1 - Effluent Objectives	
Effluent Parameter	Concentration Objective (milligrams per litre unless otherwise indicated)
CBOD ₅	15
Suspended Solids	15
Total Phosphorus	0.5
E. Coli	200 organisms /100 mL (monthly geometric mean density)
Total Chlorine Residual	0.5 mg/L (Maximum Concentration)

Note: Sampling and analysis for E.Coli shall be performed during the disinfection period of **April 01 to October 31**.

- (2) The *Owner* shall use best efforts to:
- (a) maintain the pH of the effluent from the *Works* within the range of 6.0 to 9.5, inclusive, at all times;
 - (b) operate the works within the *Rated Capacity* of the *Works* ;
 - (c) ensure that the effluent from the *Works* is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters.
 - (d) maintain the total residual chlorine concentration in the plant effluent below or equal to 0.02 mg/L (monthly average) at the point of discharge to the environment between April 1 and October 31 of each year.
- (3) The *Owner* shall include in all reports submitted in accordance with Condition 10 a summary of the efforts made and results achieved under this Condition.

7. EFFLUENT LIMITS

- (1) The *Owner* shall design, construct, operate and maintain the *Works* such that the concentrations of the of the materials named in Table 2 as effluent parameters are not exceeded in the effluent from the *Work* s.

Table 2 - Effluent Limits			
Effluent Parameter		Monthly Average Concentration (milligrams per litre unless otherwise indicated)	
Column 1		Column 2	
CBOD ₅		25	
Total Suspended Solids		25	
Total Phosphorus		1.0	
		Up to 45,400 m ³ /d	Up to 54,500 m ³ /d
Total Ammonia Nitrogen	January	25	25
	February	25	25
	March	25	20
	April	20	17
	May	14	12
	June	12	10
	July	12	10
	August	12	10
	September	12	10
	October	15	12
	November	15	12
	December	25	20
Total Kjeldahl Nitrogen	January	30	30
	February	30	30
	March	30	25
	April	25	22
	May	19	17
	June	17	15
	July	17	15
	August	17	15
	September	17	15
	October	20	17
	November	20	17
	December	30	25

- (2) Unless indicated otherwise, for the purposes of determining compliance with and enforcing subsection (1) The *Monthly Average Concentration* of a parameter named in Column 1 of Table 2 in subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of Table 2 in subsection (1).
- (3) Notwithstanding subsection (1), the *Owner* shall operate and maintain the *Works* such that the effluent is continuously disinfected during the disinfection period of April 1 - October 31 of each year, so that the monthly *Geometric Mean Density* of *E. Coli* does not exceed 200 organisms per 100 millilitres of effluent discharged from the *Works*.

- (4) The effluent limit set out in subsection (3) shall apply upon the issuance of this *Certificate* .
- (5) Only those monitoring results collected during the corresponding time period shall be used in calculating the *Monthly Average Concentration* for this *Certificate* .

8. OPERATION AND MAINTENANCE

- (1) The *Owner* shall exercise due diligence in ensuring that, at all times, the *Works* and the related equipment and appurtenances used to achieve compliance with this *Certificate* are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this *Certificate* and the *Act* and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the *Works* .
- (2) The *Owner* shall prepare an operations manual, if not already prepared, within one (1) year of the date of issuance of this *Certificate*, that includes, but not necessarily limited to, the following information:
 - (a) operating procedures for routine operation of the *Works* ;
 - (b) inspection programs, including frequency of inspection, for the *Works* and the methods or tests employed to detect when maintenance is necessary;
 - (c) repair and maintenance programs, including the frequency of repair and maintenance for the *Works* ;
 - (d) procedures for the inspection and calibration of monitoring equipment;
 - (e) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the *District Manager* ; and
 - (f) procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
- (3) The *Owner* shall maintain the operations manual current and retain a copy at the location of the *Works* for the operational life of the *Works* . Upon request, the *Owner* shall make the manual available to *Ministry* staff.
- (4) The *Owner* shall provide for the overall operation of the *Works* with an operator who

holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 435/93.

9. EFFLUENT MONITORING AND RECORDING

The *Owner* shall carry out the following monitoring program:

- (1) All samples and measurements taken for the purposes of this *Certificate* are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
- (2) Samples shall be collected at the following sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 3a - Raw Sewage Monitoring		
Parameters	Sample Type	Frequency
BOD ₅	24-h composite	weekly
Total Suspended Solids	24-h composite	weekly
Total Phosphorus	24-h composite	weekly
Total Kjeldahl Nitrogen	24-h composite	weekly

Table 3b - Effluent Monitoring		
Parameters	Sample Type	Frequency
CBOD ₅	24-h composite	weekly
Total Suspended Solids	24-h composite	weekly
Total Phosphorus	24-h composite	weekly
Total (Ammonia + Ammonium) Nitrogen	24-h composite	weekly
Total Kjeldahl Nitrogen	24-h composite	weekly
Nitrate Nitrogen	24-h composite	weekly
E. Coli	grab	weekly
Total Chlorine Residual	grab	weekly
Temperature	grab	weekly
pH	grab	weekly

Note: Sampling and analysis for E.Coli shall be performed during the disinfection period of **April 01 to October 31**.

- (3) The sampling type for the total chlorine residual in the dechlorinated effluent is by grab method and the frequency of the total chlorine residual monitoring is daily for one (1) year after the commissioning of the dechlorination system. After this one year period the daily monitoring should be replaced by a weekly monitoring program.

- (4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:
- (a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)", as amended from time to time by more recently published editions;
 - (b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;
 - (c) the publication "Standard Methods for the Examination of Water and Wastewater" (20th edition), as amended from time to time by more recently published editions;
 - (d) the Environment Canada publications "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" (July 1990) and "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna" (July 1990), as amended from time to time by more recently published editions; and,
- (5) The temperature and pH of the effluent from the *Works* shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of unionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (unionized).
- (6) The measurement frequencies specified in subsection (2) in respect to any parameter are minimum requirements which may, after 6 months of monitoring in accordance with this Condition, be modified by the *District Manager* in writing from time to time.
- (7) The *Owner* shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the effluent from the *Works* with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record the flowrate at a daily frequency. Additional flow measuring devices shall be installed if required to determine the "average daily flow" as defined in this Certificate.
- (8) All contaminant concentrations, measured in accordance with this monitoring program, are considered to be the minimum concentrations of the contaminants in the effluent from

the *Works* .

- (9) The *Owner* shall retain for a minimum of three (3) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this *Certificate* .

10. REPORTING

- (1) Ten (10) days prior to the date of a planned *By-pass* being conducted pursuant to Condition 5 and as soon as possible for an unplanned *By-pass* , the *Owner* shall notify the *District Manager* (in writing) of the pending start date, in addition to an assessment of the potential adverse effects on the environment and the duration of the *By-pass* .
- (2) The *Owner* shall report to the *District Manager* or designate, any exceedance of any parameter specified in Condition 7 orally, as soon as reasonably possible, and in writing within seven (7) days after all laboratory results for the exceedance have been received and tabulated.
- (3) In addition to the obligations under Part X of the Environmental Protection Act, the *Owner* shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by product, intermediate product, oils, solvents, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the *District Manager* describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.
- (4) The *Owner* shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to *Ministry* staff.
- (5) The *Owner* shall prepare and submit to the *District Manager* a performance report, on an annual basis, within 90 days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the *Works* and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:
 - (a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7 , including an overview of the success and adequacy of the *Works* ;
 - (b) a description of any operating problems encountered and corrective actions taken;

- (c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the *Works* ;
 - (d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;
 - (e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and
 - (f) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.
 - (g) a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
 - (h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
 - (i) a summary of all *By-pass* , spill or abnormal discharge events; and
 - (j) any other information the *District Manager* requires from time to time.
- (6) The *Owner* shall also submit in a format acceptable to the *District Manager*, no later than 45 days after the end of each quarter namely; March 31, June 30, September 30 and December 31 a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in condition 7, including an overview of the success and adequacy of the works.

11. REVOCATION OF EXISTING APPROVALS

- (1) The descriptions of the approved works and conditions of approval in this Certificate apply in place of all the existing descriptions and conditions in the Certificates of Approval under the Ontario Water Resources Act for sewage works which are part of the works approved by this Certificate.
- (2) Notwithstanding Condition 11(1) above, the original applications for approval, including design calculations, engineering drawings, and reports prepared in support of the existing Certificate(s) of Approval whose descriptions of the approved works and conditions are now replaced pursuant to Condition 11(1) above, shall form part of this Certificate.
- (3) Where an existing Certificate of Approval referred to in Condition 11(1) above applies to works in addition to the works approved by this certificate, it shall continue to apply to

those additional works.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the *Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Certificate* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this *Certificate* the existence of this *Certificate* .
2. Condition 2 is included to ensure that, when the *Works* are constructed, the *Works* will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.
3. Condition 3 is included to ensure that the *Ministry* records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the *Works* are made aware of the *Certificate* and continue to operate the *Works* in compliance with it.
4. Condition 4 is included to ensure that the *Works* are constructed in accordance with the approval and that record drawings of the *Works* "as constructed" are maintained for future references.
5. Condition 5 is included to indicate that by-passes of untreated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to *By-pass* could result in greater injury to the public interest than the *By-pass* itself where a *By-pass* will not violate the approved effluent requirements, or where the *By-pass* can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the *Ministry* to take action in an informed manner and will ensure the *Owner* is aware of the extent and frequency of *By-pass* events.
6. Condition 6 is imposed to establish non-enforceable effluent quality objectives which the *Owner* is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 6 are exceeded.
7. Condition 7 is imposed to ensure that the effluent discharged from the *Works* to the Welland River meets the *Ministry* 's effluent quality requirements thus minimizing environmental impact on the receiver and to protect water quality, fish and other aquatic life in the receiving water body.

8. Condition 8 is included to require that the *Works* be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the owner and made available to the *Ministry* . Such a manual is an integral part of the operation of the *Works* . Its compilation and use should assist the *Owner* in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for *Ministry* staff when reviewing the *Owner*' s operation of the work.
9. Condition 9 is included to enable the *Owner* to evaluate and demonstrate the performance of the *Works* , on a continual basis, so that the *Works* are properly operated and maintained at a level which is consistent with the design objectives and effluent limits specified in the *Certificate* and that the *Works* does not cause any impairment to the receiving watercourse.
10. Condition 10 is included to provide a performance record for future references, to ensure that the *Ministry* is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this *Certificate*, so that the *Ministry* can work with the *Owner* in resolving any problems in a timely manner.
11. Condition 11 is included to stipulate that this *Certificate* replaces all previous approvals for the works being the subject of this *Certificate*, and that the existing approvals remain in force for the purpose of any works which are not subject to this *Certificate* .

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 3274-5MDHJR issued on August 12, 2003

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;

- 7. The name of the Director;
- 8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

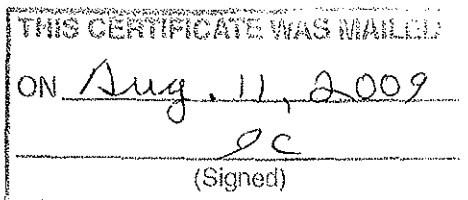
AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 30th day of July, 2009



Mansoor Mahmood, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

YK/

c: District Manager, MOE Niagara
Magendiran Vaiyapuri, P. Eng., Associated Engineering (Ont.) Ltd. ✓